

PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES RECONSTRUCTION OF THE EXISTING TRAFFIC SIGNAL AT THE INTERSECTION OF MD 202 (LARGO ROAD) AND CAMPUS WAY SOUTH IN PRINCE GEORGE'S COUNTY.

MD 202 (LARGO ROAD) IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE PROPOSED TRAFFIC SIGNAL SHALL HAVE A BASE-MOUNTED CABINET AND CONTROLLER WITH ALL THE NECESSARY EQUIPMENT INSTALLED AT THE INTERSECTION. THE INTERSECTION WILL OPERATE IN A FULLY-ACTUATED MODE USING 6 NEMA PHASES. THE MD 202 APPROACHES SHALL OPERATE CONCURRENTLY WITH AN EXCLUSIVE LEFT-TURN PHASE. CAMPUS WAY SOUTH SHALL OPERATE IN A SPLIT-PHASE MODE, WITH FIRE PRE-EMPTION FOR THE CAMPUS WAY SOUTH WESTBOUND DIRECTION.

VIDEO CAMERAS SHALL PROVIDE PRESENCE DETECTION; STREET NAME SIGNS SHALL BE UPDATED TO CURRENT STANDARDS. THE INTERSECTION HAS BEEN ADJUSTED TO BE ADA COMPLIANT.

SPECIAL NOTES:

1. APS WILL FUNCTION AS FOLLOWS:

FOR MD 202 (LARGO ROAD) - NORTH LEG

- A. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE: "WAIT TO CROSS LARGO AT CAMPUS WAY SOUTH, WAIT"
- B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

FOR CAMPUS WAY SOUTH - EAST AND WEST LEG

- A. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE: "WAIT TO CROSS CAMPUS WAY SOUTH AT LARGO, WAIT"
- B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

2. THE CONTRACTOR SHALL PURCHASE AND DELIEVER THE "APS" CENTRAL CONTROL UNIT FOR CONTROLLER TO THE SHA SIGNAL SHOP AT 7491 CONNELLEY DRIVE, HANOVER, MARYLAND 21076. MR. EDWARD RODENHIZER AT 410-787-7652 SHALL BE CONTACTED AT LEAST THREE DAYS PRIOR TO DELIVERY.

PROJECT CONTACTS:

1. THE FOLLOWING ARE THE CONTACT PERSONS FOR THIS PROJECT:

MS. FELECIA MURPHY, ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (301) 513-7358

MR. KEVIN NOWAK, ASSISTANT DISTRICT ENGINEER - CONSTRUCTION
PHONE: (301) 513-7385

MR. VERNON STINNETT, ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (310) 513-7304

MR. VICTOR GRAFTON, UTILITY ENGINEER
PHONE: (310) 513-7350

MR. RICHARD DAFF, SR., CHIEF - TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7630

MR. EDWARD RODENHIZER, CHIEF - SIGNAL SHOP
PHONE: (410) 787-7652

MR. SONNY BAILEY, CHIEF - SIGN SHOP
PHONE: (410) 787-7676

THE POWER COMPANY REPRESENTATIVE:

POTOMAC ELECTRIC POWER COMPANY
8300 OLD MARLBORO PIKE
UPPER MARLBORO, MD 20772
(301) 961-5325

2. MAINTENANCE OF TRAFFIC WILL BE HANDLED BY THE CONTRACTOR UTILIZING THE STANDARD PLATES FOR TRAFFIC CONTROL FROM SECTION MD 104.00 OF THE SHA BOOK OF STANDARDS FOR HIGHWAYS & INCIDENTAL STRUCTURES.

3. CONTRACTOR SHALL NOTIFY MR. ED RODENHIZER, SIGNAL SHOP SUPERVISOR, 72 HOURS IN ADVANCE OF THE START OF ANY SIGNAL WORK.

EQUIPMENT LIST 'C'

C. SHA FORCES SHALL REMOVE THE CONTROLLER AND ALL AUXILIARY EQUIPMENT FROM THE CONTROLLER CABINET. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

EQUIPMENT LIST 'A'

A. EQUIPMENT TO BE SUPPLIED BY THE ADMINISTRATION.

CATEGORY CODE NO.	DESCRIPTION	QUANTITY
900000	MASTER/LOCAL CONTROLLER, 5 FOR BATTERY BACKUP, AND S-TYPE CABINET W/ ALL NECESSARY EQUIPMENT HOUSED IN A BASE MOUNTED CABINET	1 EA
900000	VIDEO DETECTION INTERFACE UNIT 5-6 CAMERAS	1 EA
900000	FLAT SHEET ALUMINUM SIGNS CONSISTING OF:	134 SF
	1 EA R3-5R (30"x36") "RIGHT ONLY" MAST ARM MOUNTED SIGN	
	5 EA R3-5L (30"x36") "LEFT ONLY" MAST ARM MOUNTED SIGN	
	1 EA R4-7 (30"x36") KEEP RIGHT (SYMBOL) GROUND-MOUNTED SIGN	
	1 EA R3-6L (30"x36") "SHARED LEFT AND THRU" MAST ARM-MOUNTED SIGN	
	1 EA R3-5q (30"x36") "THRU" MAST ARM MOUNTED SIGN	
	4 EA R10-3(1) (9"x15") COUNTDOWN PEDESTRIAN PUSHBUTTON SIGN "TO CROSS CAMPUS WAY SOUTH"	
	2 EA W11-2(R) (36"x36") PEDESTRIAN CROSSING	
	2 EA W11-2(L) (36"x36") PEDESTRIAN CROSSING	
	2 EA W16-7pR (24"x12") RIGHT DIAGONAL ARROW	
	2 EA W16-7pL (24"x12") LEFT DIAGONAL ARROW	
	2 EA D-3(1) (16"xVAR) "CAMPUS WAY SOUTH"	
	2 EA D-3(1) (16"xVAR) "LARGO ROAD"	

SHIELD ASSEMBLY SIGNS CONSISTING OF:

1 EA	M1-5(6) (51"x30") POLE-MOUNTED "NORTH, MD 202, LEFT ARROW"
1 EA	M1-5(6) (51"x30") POLE-MOUNTED "NORTH, MD 202, LEFT ARROW"
1 EA	M1-5(6) (72"x48") POLE-MOUNTED "NORTH, MD 202, RIGHT ARROW"
1 EA	M1-5(6) (72"x48") POLE-MOUNTED "NORTH, MD 202, RIGHT ARROW"
G	

EQUIPMENT LIST 'B'

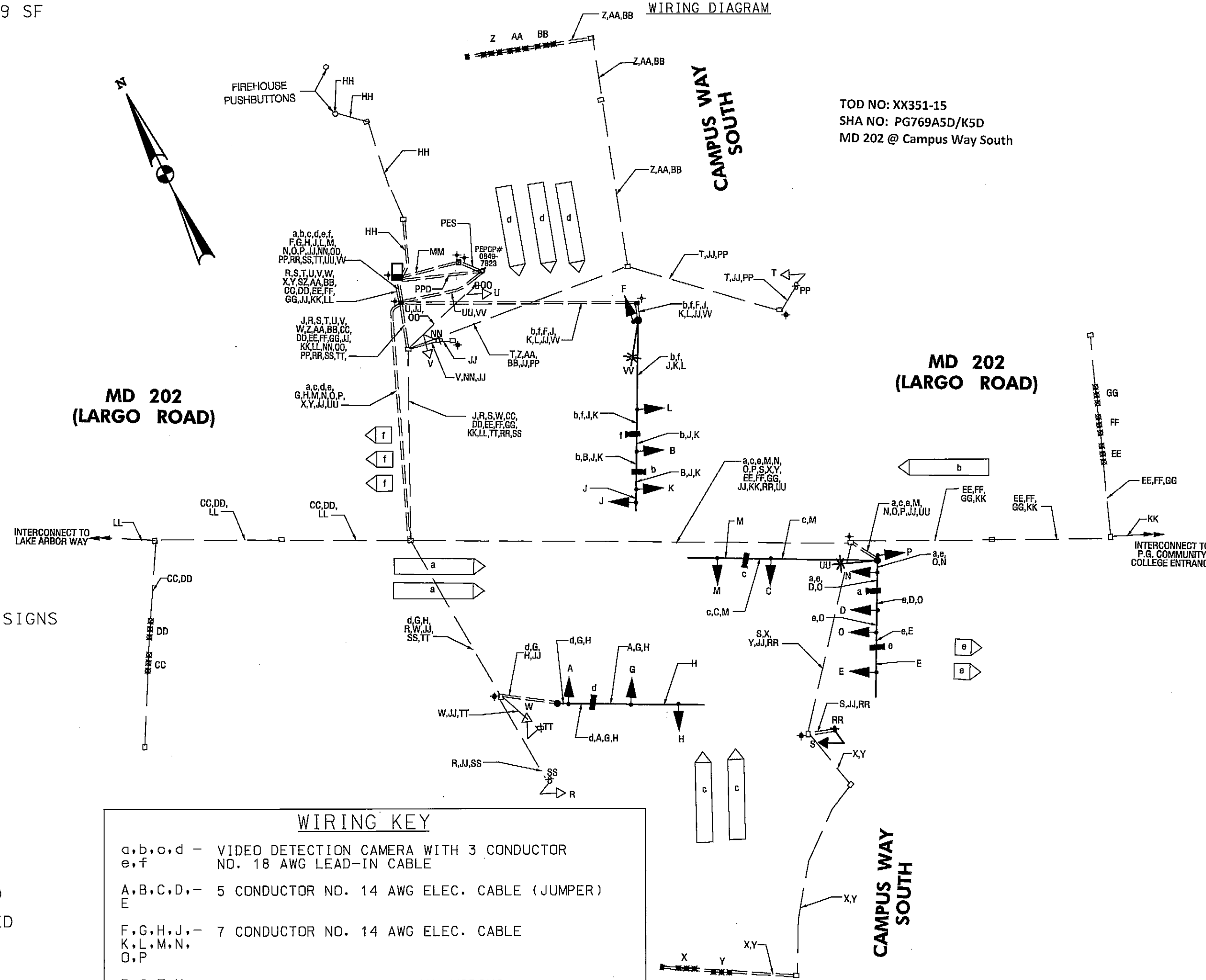
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

ITEM NO.	QUANTITY	DESCRIPTION
1003	2 EA	MAINTENANCE OF TRAFFIC
2002	3 CY	TEST PIT EXCAVATION
5004	100 LF	12" HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
5006	100 LF	5" WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
5007	100 LF	REMOVAL EXISTING PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
6002	580 SF	5" CONCRETE SIDEWALK
8004	2 EA	ADJUST EXISTING HANDHOLE TO GRADE W/ COLLAR
8006	2 EA	ANY SIZE LIGHTING ARM ON SIGNAL STRUCTURE WITH 250 WATT HPS LUMINAIRE
8007	1 EA	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION & SIGNS
8008	1 EA	BREAKAWAY PEDESTAL POLE (ANY SIZE)
8013	1 EA	16" LED COUNTDOWN PEDESTRIAN SIGNAL HEADS
8017	1 EA	MAST ARM POLE & 70' MAST ARM ANY "T" DIMENSION
8018	1 EA	MAST ARM POLE & 50' MAST ARM ANY "T" DIMENSION
8020	5 EA	NON-INVASIVE PROBES ANY LENGTH LEAD-IN CABLE
8021	1 EA	REMOVE & DISPOSE MATERIAL & EQUIPMENT PER JOB
8024	1 EA	TWIN MAST ARM POLE & 50'/70' ARMS ANY "T" DIM.
8025	6 EA	VIDEO DETECTION CAMERA & CABLE UP TO 500'
8031	330 LF	DISCONNECT, PULL-BACK & RE-ROUTE EXIST. CABLES
8034	150 LF	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4" - SLOTTED
8035	300 LF	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4" - TRENCHED
8036	164 LF	WOOD SIGN SUPPORTS UP TO 4" X 6"
8037	66 SF	DETECTABLE WARNING SURFACES
8038	203 S	F INSTALL OVERHEAD OR GROUND MOUNTED SIGNS INCLUDING HARDWARE
8040	500 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
8042	1 EA	METERED SERVICE PEDESTAL EMBEDDED (100 OR 200 AMP)
8045	80 LF	ELECTRICAL CABLE 1-CONDUCTOR NO. 8 AWG - THHN/THWN
8046	2 EA	FURNISH & INSTALL ELECTRICAL HANDHOLE
8050	49 EA	12" LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8055	150 LF	ELECTRICAL CABLE 3-CONDUCTOR NO. 14 AWG
8056	100 LF	ELECTRICAL CABLE 5-CONDUCTOR NO. 14 AWG
8057	3250 LF	ELECTRICAL CABLE 7- CONDUCTOR NO. 14 AWG
8058	350 LF	ELECTRICAL CABLE 2-CONDUCTOR NO. 14 AWG TC
8065	1 EA	INSTALL CONTROLLER AND CABINET, BASE-MOUNTED
8066	1 EA	CONCRETE TESTING BY A CERTIFIED THIRD PARTY

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	37	43	39	48	41	42
Phase 1 & 6	◀G-	◀G-	◀G-	G	G	◀R-	◀R-	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
1 & 6 Change	◀Y-	◀Y-	◀Y-	G	G	◀R-	◀R-	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
Phase 2 & 5	◀R-	◀R-	◀R-	G	G	◀R-	◀R-	G	G	R	R	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW
2 & 5 Change	◀R-	◀R-	◀R-	G	G	◀R-	◀R-	G	G	R	R	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW
Phase 2 & 5	◀R-	◀R-	◀R-	Y	Y	◀G-	◀G-	G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
2 & 5 Change	◀R-	◀R-	◀R-	Y	Y	◀G-	◀G-	G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
Phase 3	◀R-	◀R-	◀R-	R	R	◀Y-	◀Y-	G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
3 Change	◀R-	◀R-	◀R-	R	R	◀Y-	◀Y-	G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
Phase 4	◀R-	◀R-	◀R-	R	R	◀Y-	◀Y-	G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
4 Change	◀R-	◀R-	◀R-	R	R	◀Y-	◀Y-	G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
Phase 3 ALT	◀R-	◀R-	◀R-	R	R	◀Y-	◀Y-	G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
3 ALT Change	◀R-	◀R-	◀R-	R	R	◀Y-	◀Y-	G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
Pre-emption Phase	◀R-	◀R-	◀R-	R	R	◀Y-	◀Y-	G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
Pre-emption Change	◀R-	◀R-	◀R-	R	R	◀Y-	◀Y-	G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
Flashing Operation	FL/RA	FL/RA	FL/RA	FL/Y	FL/Y	FL/RA	FL/RA	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK

WIRING DIAGRAM



WIRING KEY

a,b,c,d	- VIDEO DETECTION CAMERA WITH 3 CONDUCTOR NO. 18 AWG LEAD-IN CABLE
e,f	-
A,B,C,D,-	- 5 CONDUCTOR NO. 14 AWG ELEC. CABLE (JUMPER)
E	-
F,G,H,J,-	- 7 CONDUCTOR NO. 14 AWG ELEC. CABLE
K,L,M,N,-	-
O,P	-
R,S,T,U,-	- EXISTING COUNTDOWN SIGNAL WIRING
V,W	-
X,Y,Z,AA,-	- PROPOSED NON-INVASIVE PROBE LEAD-IN
BB	-
CC,DD,EE,-	- EXISTING NON-INVASIVE PROBE LEAD-IN
FF,GG	-
HH	- 3 CONDUCTOR NO. 14 AWG ELEC. CABLE (FIREHOUSE PUSHBUTTON)
JJ	- NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
KK,LL	- EXISTING INTERCONNECT CABLE TO BE PULLED-BACK; RE-ROUTE TO NEW CONTROLLER
MM	- 1 CONDUCTOR NO. 8 AWG=THHN/THWN ELEC. CABLE
NN,OO,PP,-	- EXISTING PUSHBUTTON WIRING
RR,SS,TT	-
UU,VV	- 2 CONDUCTOR NO. 12 AWG ELEC. CABLE TYPE TC
PES	- PROPOSED ELECTRICAL SERVICE
PPD	- PROPOSED PHONE DROP
+	- GROUND ROD (3/4" DIA. x 10' LENGTH)



STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION
MD 202 (LARGO ROAD)
AT CAMPUS WAY SOUTH
KETTERING, MD

GENERAL INFORMATION SHEET

SCALE: 1" = 20' ADVERTISED DATE: FEBRUARY 2011 CONTRACT NO. XX3515168

DESIGNED BY: ENB COUNTY: PRINCE GEORGE'S
DRAWN BY: ENB LOGMILE: 16020205.77
CHECKED BY: NR TMS NO.: K-044
F.A.P. NO.: TOD NO.:

TS NO. 814 D-GI DRAWING: SG-2 OF 2 SHEET NO. 2 OF 2